DOCUMENT RESUME

ED 479 704 SO 035 304

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TITLE	Information Literacy and the Undergraduate Methods Curriculum.
PUB DATE	2003-08-00
NOTE	19p.; Paper presented at the Annual Meeting of the American Political Science Association (99th, Philadelphia, PA, August 28-31, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Assignments; Comparative Analysis; Higher Education; *Information Literacy; Methods Courses; *Political Science; Research Methodology; Student Educational Objectives; Undergraduate Students
IDENTIFIERS	*Association of College and Research Libraries

ABSTRACT

This paper observes that the "Information Literacy Competency Standards for Higher Education" generated by the Association of College and Research Libraries (ACRL) (2000) provides a reasonable set of pedagogical goals to guide the construction and implementation of the undergraduate methods course. The paper argues that the particular context of the undergraduate methods course, with its emphasis on developing analytical and data management skills, as well as exposure to concepts such as validity, reliability, measurement, and bias should be particularly fertile ground for the targeted enhancement of ACRL targeted competencies. The paper outlines five information literacy standards described in the ACRL paper and notes specifically how they relate to designing student assignments and research projects. It reports on a limited natural experiment conducted using two sections of a methods course and two sections of a non-methods political science course for comparison, noting that for one course in each of these paired sections, the assignments and some course content were varied to reflect the information literacy standards. The paper presents student scores on a standardized information literacy questionnaire. It states that findings indicated that information-literacy-oriented courses can improve student performance on standardized competency tests. This improvement, however, was equally present in both methods and non-methods courses. Includes five tables. Appended are sample assignments. Cites 16 works. (Author/BT)

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Information Literacy and the Undergraduate Methods Curriculum

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SO 035 304

Paper prepared for presentation at the annual meeting of the American Political Science Association, August 27-31, 2003, Philadelphia, PN

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Abstract

This paper observes that the "Information Literacy Competency Standards for Higher Education" generated by the Association of College and Research Libraries (2000) provides a reasonable set of pedagogical goals to guide the construction and implementation of the undergraduate methods course. Moreover, we argue that the particular context of the undergraduate methods course with its emphasis on developing analytical and data management skills as well as exposure to concepts such as validity, reliability, measurement and bias should be particularly fertile ground for the targeted enhancement of ACRL targeted competencies. Our paper outlines the five information literacy standards (as well as the performance indicators and outcomes associated with each) described in the ACRL paper. We note specifically how they relate to designing student assignments and research projects. A limited natural experiment is conducted using two sections of a methods course and two sections of a non-methods political science course for comparison. For one course in each of these paired sections, the assignments and some course content were varied to reflect the information literacy standards (other course elements including text, instructor and most lecture content were held roughly constant). Student scores on a standardized information literacy questionnaire are presented. Our findings indicate that information literacy oriented courses can improve student performance on standardized competency tests. However, this improvement was equally present in both methods and non-methods courses.

Introduction

Most American Political Science departments have moved to include a research methods component into the undergraduate political science curriculum. This is largely in recognition of the increasing methodological sophistication of the field and the prominence of empirical methods content in graduate programs (Barth et al, 2003). However, since only a minority of undergraduates actually undertake advanced degrees in the policy or social sciences, the goal of the methods course and the proper task orientation of the methods instructor have been somewhat vague. Are we trying to make students better consumers of academic research? Inspire critical thinking? Impart specific technical skills? Or, evangelize on behalf of specific epistemologies?

One universal expectation of a political science methods course is that students leave the course knowing how to organize, evaluate and analyze information. To best accomplish this, information literacy objectives should be integrated into instruction on statistical inference, research design, and research methodologies. Moreover, because of the attention paid to issues of hypothesis testing, standards of evidence, sampling, measurement issues like validity and reliability as well as to technical skills involved in gathering, organizing and working with information as numerical data or otherwise, we contend that the undergraduate research methods class should be a particularly efficient environment within which to introduce concepts central to developing information literacy.

This paper will explain the concept of information literacy (IL) and list the standards put forward by the Association of College and Research Libraries (ACRL). We then apply those standards to the learning objectives of undergraduate methods courses and suggest pedagogical methods that promote information literacy. Finally, we test whether these methods are effective in improving student mastery of the ACRL standards using a standardized student assessment device. We conclude that the incorporation of information literacy components into student assignments can have a positive impact (at least in the short run) on information literacy competency. Importantly, this impact appears to be independent of the general course content as information literacy test scores of student in research methods courses were not significantly higher than for those in non-methods courses with an information literacy orientation.

What is Information Literacy?

Information literacy is the set of skills needed to find, retrieve, analyze, and use information. Information literate people are those who have learned how to learn. They know how information is organized, where to find it, and how to use it. Such skills are becoming increasingly necessary as our society shifts from an industrial economy based on production to a service economy based on information. With this shift in society has come a corresponding shift in what is expected from an education. Indeed, "knowing how to ask the right questions may be the single most important step in learning" (Eric Digest 1994). Unfortunately, these skills have proved elusive for many. We are awash with information in our society. Information is so readily available and comes at us with such speed that we are often unable to differentiate between good and bad information or know how to use information properly. The author David Shank (1997) coined the term

"data smog" to describe what happens when too much information is available to us. We become lost in the constant stream of inputs and data, creating a barrier to good decision making and leading to heightened anxiety. Psychologists are beginning to describe a new ailment, Information Fatigue Syndrome, with symptoms of paralysis of analytical ability, heightened anxiety and self-doubt, and increasing tendency to blame others (Bundy 1998).

The solution to data smog is information literacy. The information literate person is able to cope with the challenge of excess information availability by being able to analyze and evaluate the information he or she finds, which give her confidence to use information to make a decision. Acquiring information literacy skills also saves time, as we avoid analyzing useless data (Mendelssohn 2003). From an instructional point of view, information literate students are able to generalize concepts and skills taught in a course and apply them to new problems and issue areas (Buchanan 2002). Regardless of one's discipline or the specific subject matter of a course, information literacy is clearly an important objective for effective instruction.

Information literacy learning objectives were first developed by the National Council of Teachers of Mathematics (NCTM 1989), which suggested that information literacy in the mathematics curriculum involved problem-solving, the use of estimation, thinking strategies for basic facts, and formulating and investigating questions from problem situations. The focus of evaluation from instructors, according to this report, should be on using information in meaningful ways to demonstrate understanding. Political science methodology courses share these goals and concerns, highlighting the applicability of these objectives to these courses. Other organizations and associations expanded on this concept throughout the 1980s and 1990s (ERIC Digest 1994). Since then, the idea of information literacy has received widespread acceptance, particularly within the academic library community, and over 5000 publications have been written exploring the subject (Rader 2002). With the standards articulated by the ACRL in 2000, information literacy has become a primary learning objective in higher education, although information literacy instruction still foreign to most faculty (Buchanan 2002).

The Information Literacy Competencies

Before proceeding further, it is necessary to quickly summarize the information literacy standards put forward by the ACLR. There are five competency standards, each described below. In addition to articulating standards, the ACRL provides performance indicators to assess whether students have mastered a particular standard. The full description of the standards and their corresponding performance indicators are available from the ACRL (2000) and are summarized below in Table 1.

The first standard states that the information literate individual determines the nature and extent of the information needed. This standard deals with focusing and refining a topic, determining the amount and type of information needed, and planning the information search. Putting together an appropriate research design would be a key outcome in a methods course for this standard.

The second standard states that the information literate student accesses needed information effectively and efficiently. This standard deals with selecting appropriate resources, brainstorming information strategies, and searching information resources. An

example of a methods course outcome for this standard would be producing an annotated bibliography containing relevant, contemporary sources.

The third standard states that the information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system. This standard deals with determining the origin of information, evaluating the credibility of the author or creator of that information, and selecting the most reliable information. Critically evaluating surveys reported in media outlets using knowledge of the requirements of scientific survey construction would be an example of an outcome for this standard found in a methods course.

The fourth standard states that the information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose. This standard deals with organizing information for its intended audience, determining the best delivery format, and incorporating the information into a finished project. A sample outcome for a methods course might be a final group project where students present data they have gathered to test a hypothesis.

The fifth and final standard states that the information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally. This standard deals with citing information sources correctly, demonstrating awareness of copyright, and understanding that plagiarism is unlawful. The concepts in this standard are covered in many courses, but a sample outcome for a methods course might be to have students discuss the ethics of certain data sources, such as human experimentation, or ethical concerns surrounding the use of data gathered by scholars by policymakers.

Pedagogical Strategies Suggested by Information Literacy

These five standards are concise, but a quick glance at Table 1 below reveals that they are quite complex in their application. In order to fully integrate all five into a methods curriculum, it is necessary to rethink and reevaluate the pedagogy of the entire course. While this requires a certain amount of effort on the part of the instructor, the pedagogical strategies suggested by the standards are those that are familiar to instructors who have been teaching for any time at all. It turns out that the same strategies that have long been recognized as leading to student learning will also promote information literacy. There are some strategies, however, that seem to us to be more likely to promote the specific outcomes called for by the ACRL standards.

Librarians have written most of the extant literature on information literacy literature and as a group, librarians tend to be its most vocal advocates. This is to be expected as librarians are information professionals, but also because helping students and faculty access and use information appropriately is central to the mission of academic librarians. However, information literacy is more than just the effective use of libraries, and librarians have recognized that it must be fully integrated in the curriculum to have the impact on learning information literacy advocates hope for (Buchanan 2002; Fialkoff 2001). Collaboration between librarians, as information specialists, and faculty, as instructional and content specialists, is necessary for students to become information literate. In spite of this seemingly obvious statement, cooperation between librarians and faculty is rare (Rader 2002) and tends to limited to "research projects." This suggests that a key strategy to integrating information literacy standards into a course is to fully

involve library personnel at multiple stages in the instruction, beginning with collaborative course development, including in-class instruction by librarians, and requesting feedback by librarians to the faculty on student behavior at the library. As the librarians argue, faculty "need to treat information literacy as part of the curriculum, not simply part of the library" (Whitehead and Quinlan 2003).

One way to assist students is by expressing expectations in unambiguous terms. Bloom's (1956) taxonomy of educational objectives can be a useful classification of mental tasks to differentiate between relatively simple, knowledge-based tasks and more demanding evaluation-based tasks. By outlining the learning objectives for each assignment in the syllabus, students understand why they are being given assignments and instructors can be more confident that their assignments are addressing the information literacy standards. If students understand the purpose of assignments and how will benefit them, they're more likely to learn and retain the concepts the assignment seeks to support (UMUC 2003). Bloom's taxonomy is also useful when evaluating course assignments and the rationale behind them. A comparison of the language of your assignments and the taxonomy reveals what level of abstraction and intellectual difficulty your assignments require. Bloom's taxonomy is summarized below in Table 2.

In addition to being clear about the learning objectives for each assignment, it is also important to evaluate the course as a whole to ensure that assignments and activities are specifically designed to promote information literacy. As a general guideline, assignments for the course should emphasize analysis over answers, and process over outcome (Quarton 2003). This means that faculty cannot simply assign a research project or a group project at the beginning of the semester and give them a final grade for the project at its completion. Instead, the process-driven assignment will have students submit work to be graded at each point in the process leading up to the ultimate final assignment. Not only does this encourage students to actually follow the steps of the process thoughtfully, rather than rush through it in one sleep-deprived binge at the end of the semester, but it also provides opportunities for feedback so the instructor can guide that process. Likewise, asking students to provide answers to questions on exams without also giving them opportunities to explain why the answers are what they are makes it difficult to know at what level students have mastered the material. As students complete assignments that are explicitly tied to the outcomes associated with the information literacy standards, they are much more likely to achieve those standards.

Another way to promote information literacy in a course is to include writing or analysis in the assignments. When students are required to write, they are required to think, as writing forces them to formulate and organize their knowledge-relevant thoughts. Assignments that require students to identify, retrieve, evaluate, and effectively utilize information will clearly improve their information literacy (UMOC 2003). Buchanan (2002) suggests four specific strategies to promote information literacy: engage students in group activities that require them to seek and evaluate information, provide feedback on their work and reinforce information literacy concepts, provide opportunities for students to apply their competence in information literacy through such assignments as an annotated bibliography or assembling data for presentation, and challenging students with a "disequilibrium" experience, followed by analysis and discussion. Whatever assignments you decide upon that are appropriate for your course, if the students in completing an assignment develop and demonstrate critical thinking,

problem-solving, synthesis, and application skills, you may be confident that the students will develop information literacy competence.

Assessing Information Literacy Objectives

One reason information literacy has made slow inroads into faculty practice is that there are not many studies testing whether instruction infused with information literacy objectives make a difference in short or long-term learning outcomes (Bundy 1998). The present study seeks to investigate the short-term outcomes, leaving long-term assessment to future studies.

To assess the benefit of the ACRL information literacy objectives to an undergraduate methods course, we used the information literacy assessment instrument developed at Mesa Community College. MCC annually administers a nationally recognized, comprehensive program to assess student learning outcomes. The assessment program is overseen by the Faculty Senate Student Outcomes Committee, a standing committee of the Faculty Senate, in collaboration with the Dean of Instruction. The assessment measures and documents the degree to which students attain specific learning outcomes valued and defined by faculty. The assessment question bank for information literacy was produced in cooperation with the ACLA and is explicitly tied to the ACLA standards. The questionnaire measures student competency on all five ACRL standards.

We administered this questionnaire to students enrolled in two undergraduate methods and two non-methods political science courses at Carleton College. Our quasi-experimental design took advantage of a planned alteration in course content that occurred between winter and spring terms during the 2003 academic year.

The written assignments for the spring term methods course and a course in international relations were both adapted to reflect the ACLA competency standards. The courses also incorporated several of the pedagogical techniques described above including in-class instruction from a social science research librarian, explicit discussion of the objective of the assignments from an information literacy perspective and an emphasis on having students describe and analyze their research process as part of their assignment writing.

For example, one of the objectives of the IL-oriented courses was to familiarize students with the on-line research data bases available through the college library and to provide them with the tools necessary to perform effective searches. To facilitate this learning, half of one class session for each of the two IL-oriented classes was given over to an in-class visit from a research librarian or to an instructor led discussion of effective search techniques using J-Stor, Lexis-Nexis and the Social Science Citation Index.

Appendix A and B provide examples of actual assignments that were directed at developing familiarity with these on-line databases. The objectives of the assignments differ somewhat with regard to the information literacy competencies. In the international relations class, students were asked to use the databases to find new information that would help them to answer an empirical question about changing corporate norms. In the methods course, students were simply identifying potential project topics while exploring the existing literature to assess the state of current research. Nevertheless, in both instances, as part of their written paper students were asked to reflect on their search efficiency and evaluate the successfulness of the search process while considering the quality and diversity of sources available to them.

Table 3 describes the size and experimental condition with regard to information literacy and research methods environment for the four courses that comprised study groups over the two academic terms.

Table 3. Experimental Groups

Course	Number of Students	Experimental Conditions	
		Methods	IL-Oriented
American Foreign Policy (POSC 231 Winter)	24	No	No
Methods of Political Research (POSC 230 Winter)	16	Yes	No
International Relations and World Politics (POSC 170 Spring)	30	No	Yes
Methods of Political Research (POSC 230 Spring)	14	Yes	Yes

N = 84

With the exception of the POSC 170 all courses were designated 200 level (sophomore). However, analysis of the average number of college courses completed per student revealed no significance difference between students in the two non-methods political science courses (POSC 231 and 170 with an average of 17.8 and 17.5 courses completed respectively). A significant difference ($p < .001$) was indicated between these students and those in the methods class. Students in methods averaged 21.5 and 22.3 completed college courses (winter and spring respectively). This reflects the tendency for students to enroll in methods during their junior year at Carleton. Importantly the difference in the mean number of courses completed between students in the two methods course (winter and spring) was not significant.

Since this quasi-experimental, post-test only, non-equivalent control group design relies on existing groups (i.e. subjects were not randomized into treatments by the experimenters) questions of selection bias present the greatest threat to internal validity. The hazards of potential systematic differences between experimental and control groups is further exacerbated, in this instance, by our decision not administering a pre-test at the beginning of the term. While such a test would have allowed us to assess initial levels of information literacy competency and more accurately measure improvement, it would also have introduced the threat of a testing effect on our outcomes.

Additional validly concerns arise from the absence of complete control over one of the experimental conditions. As noted above, almost all courses contain some content which should develop a student's information literacy. In light of increasing regard for the importance of these skills it is a virtual certainty that students were encourage to develop information literacy competencies by other professors prior to, or perhaps concurrently with, our experiment. Given this fact, any analysis must consider differences in the levels of student experience with information management, manipulation and presentation tools. For our purposes, and in keeping with the assumption that all classes

offer at least something in terms of IL, we will consider the number of course taken by the student as rough proxy for this experience factor.

Having articulated these concerns about the design, we should also state our confidence that the general similarity reflected by the mean number of courses completed as well as homogeneity in other areas including gender distribution, the ratio of political science majors to non-political science majors, and fortuitous constancy in the time of day that the courses met (the methods classes met at 8:30am M,W,F, both terms while the international relations courses met at 12:40pm M,W,F both terms), make these groups valid for the purpose of comparison.

Administration of the information literacy tests occurred at the end of the respective terms when students were asked to complete the MCC designed assessment. Compliance with our request was over 92 percent. The numbers in Table 3 reflect the quantity of students who completed the test and not actual course enrollments. Two students who were enrolled in POSC 230 in the spring had already completed the assessment (having been members of the winter term 231 class). Their responses were excluded from the spring POSC 230 group to eliminate a possible testing effect. Our hypotheses with regard to score improvement are as follows:

> [H1] On average, students who participate in a course with an information literacy orientation (regardless of the course's substantive content) should score higher on the standardized test than students in a non-IL-oriented course.
>
> [H2] On average, students in a methods course, because of its emphasis on the collection, analysis and presentation of information, should score higher on the standardized test than students in a non-methods course.
>
> [H3] The combination of a methods course environment and an IL-oriented course design should yield the highest average scores.
>
> [H4] Since virtually all courses incorporate some information literacy relevant components, more senior students who have had more opportunity to develop information literacy competencies should score higher on the test than less senior students.

Table 4 presents the results of a three-way Analysis of Variance (ANOVA). The dependent variable is standardized test scores. Regressors were entered for the two experimental conditions (to test H1 & H2), an interaction between experimental conditions (to test H3), and a dichotomous indicator of student academic standing as determined by number of college courses completed (first year and sophomore 18 or less, junior and senior more than 18) as a proxy for experience and as a control for potentially confounding group differences (H4).

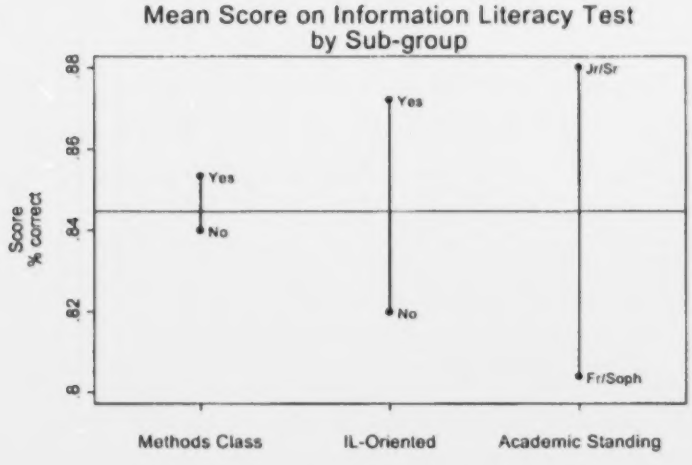
Table 4. Analysis of Variance in Information Literacy Test Scores

Factor	F	p
Research Methods Class	1.92	.170
Il-Oriented	10.99	.001
Methods*IL-Oriented	0.94	.335
Student Academic Standing	22.5	.0001

N= 84, R^2 = .30, Adjusted R^2 = .27, Model F = 8.55 P< .0001, d.f. = 4

The ANOVA results provide provisional support for H1, and H4 indicating that IL-oriented courses have a significant effect on student scores and that student experience significantly affects test results. However, our contention that the acquisition of information literacy competencies would be enhanced by participation in a research methods course (H2) was not supported. Neither was our or hypothesis that an interaction of methods course and IL-orientation would have the most profound effect on scoring (H3). We therefore must accept the null hypotheses in these instances.

Figure 1 illustrates further the magnitude as well as the direction of the three primary factors on average information literacy test scores. The affect of the methods class environment, though not significant was slightly positive. However, the effect of the methods environment was completely overwhelmed by the more substantial effect of the IL-oriented courses and the general experience of the students. Unfortunately, the figure does not reflect the impact of any of these conditions while controlling for the others.



OLS regression analysis does allow for the examination of the direction and magnitude of effect for each of the independent variables while holding the others constant. Table 5 presents the results of an OLS regression using student test scores as the dependent variable and incorporating dichotomous variables indicating whether or not the student was in a research methods class and whether they were in one with an information literacy orientation. An interval level measure indicating the number of college courses completed by the student is also included (in contrast to the simple

dichotomous measure used in the analysis presented in Table 4). The results indicate that, on average, a student's presence in an IL-oriented course increased by two the number of correct responses on the standardized test holding all other factors constant. For each college course completed an average student increased the number of correct responses by roughly .2 questions (or one question improvement for every 5 courses taken) holding all other factors constant. Presence in a research methods course was, again, not a significant factor in predicting test score.

Table 5. OLS Regression of Test Score on Method Class, IL-Oriented Class and Number of Classes Taken

Variables	β	S.E. β	t	p<
Research Methods Class	-.448	.7433702	-0.60	0.549
IL-Oriented Class	1.977	.6700309	2.95	0.004
Number of Classes Taken	.1876	.0600833	3.12	0.003
Constant	27.75201	1.179888	23.52	0.000

N = 84, R^2 = 0.19, Adjusted R^2 = .16

Conclusion

At the outset of this paper we articulated the reason why achieving higher levels of information literacy was a reasonable goal for research methods instructors who were understandably uncertain about the pedagogical aims of the undergraduate methods curriculum. We also noted that there was a general correspondence between the ARCL competencies and many of the traditional elements of a research methods class and thus surmised that the environment provided by a research methods course could be particularly fertile for growing information literacy skills.

The results of our experiment belie this expectation. Presence in a research methods class had no appreciable impact on the acquisition on student information literacy. Several potential explanations for this might be advanced. As Braumoeller (2003) notes, methods classes are already packed with challenging content and, in so far as they employ mathematical notation and concepts, teaching them is in many ways analogous to teaching a new language while teaching new substantive content in that language simultaneously! Accepting even more curricular responsibility in such an environment may be simply overloading students who must manage their time and cognitive effort across their course-load. Information literacy might be more effectively incorporated elsewhere.

Furthermore, the kind of statistical manipulation, analysis and presentation of data taught in a methods class, although it may be conceptually related to information manipulation and management, may be a distinct sub-set of this type of knowledge. It is perhaps too easy for those of us familiar with the techniques and underlying concepts to equate quantitative/statistical literacy with information literacy. At any rate, if we wish to assert that these types of knowledge are related, conscious assist students in recognizing the parallels between gathering, analyzing and presenting numerical data and other types of information.

In addition to this important negative finding, our analysis reflects several positive results. First, conscious implementation of information literacy enhancing pedagogical techniques can improve student performance on standardized information literacy tests (at least in the short run). Moreover, it appears that the impact of these strategies is content neutral. This implies that information literacy competency can be developed throughout the college curriculum and need not be construed as the exclusive province (or burden) of a particular course and/or department. Moreover, the results of our analysis appear to show that information literacy skills accumulate as students progress through their collegiate studies. This pattern might be accentuated if we as faculty were to heed the librarian's advice and treat information literacy as not 'simply part of the library'.

Table 1. ACRL Information Literacy Competency Standards for Higher Education with corresponding performance indicators.

Competency Standard 1: the information literate student determines the extent of the information needed.

- Performance Indicator 1: the information literate student defines and articulates the need for information.
- Performance Indicator 2: the information literate student identifies a variety of types and formats of potential sources for information.
- Performance Indicator 3: the information literate student considers the costs and benefits of acquiring the needed information.
- Performance Indicator 4: the information literate student reevaluates the nature and extent of the information needed.

Competency Standard 2: the information literate student accesses needed information effectively and efficiently.

- Performance Indicator 1: the information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.
- Performance Indicator 2: the information literate student constructs and implements effectively designed search strategies.
- Performance Indicator 3: the information literate student retrieves information online or in person using a variety of methods.
- Performance Indicator 4: the information literate student redefines the search strategy if necessary.
- Performance indicator 5: the information literate student extracts, records, and manages the information and its sources.

Competency Standard 3: the information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

- Performance Indicator 1: the information literate student articulates and applies initial criteria for evaluating both information and its sources.
- Performance Indicator 2: the information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.
- Performance Indicator 3: the information literate student determines whether the initial query should be revised.

Competency Standard 4: the information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

- Objectives are not given for this standard because its performance indicators are best addressed by the course instructor.

Competency Standard 5: the information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

- Performance Indicator 1: the information literate student understands many of the ethical, legal, and socioeconomic issues surrounding information and information technology.
- Performance Indicator 2: the information literate student acknowledges the use of information sources in communicating the product or performance.

(Adapted from ACRL 2001)

Table 2. Bloom's Taxonomy

Competence	Skills Demonstrated
Knowledge	Observation and recall of information Mastery of subject matter Question cues: list, define, tell, describe, identify, show, label
Comprehension	Understanding information Interpret facts, compare, contrast Predict consequences Order, group, infer causes Question cues: summarize, describe, interpret, contrast, project, associate, differentiate, discuss
Application	Use information Solve problems using required skills or knowledge Question cues: apply, demonstrate, calculate, complete, illustrate, solve, classify
Analysis	Seeing patterns Organization of parts Identification of components Question cues: analyze, order, explain, classify, compare, infer
Synthesis	Generalize from given facts Predict, draw conclusions Question cues: combine, integrate, modify, plan, create, design, compose
Evaluation	Compare and discriminate between ideas Assess the value of theories, presentations Make choices based on reasoned argument Verify value of evidence Question cues: assess, rank, grade, test, measure, judge, explain, support, conclude, compare, summarize

(Adapted from Bloom 1956)

Appendix A

Example of an international relations case study assignment with an information literacy component

Case Study Response
Sweating the Swoosh

In a paper of not more than 5 pages (typed, double spaced, 12pt font with reasonable margins) answer the question related to the case below. This paper will be **due at the beginning of class on Friday May 30th.** You will need to search for resources to fulfill the external research component of the assignment. I would suggest using Lexis-Nexis http://web.lexis-nexis.com/universe. Remember to employ the 'guided search' options to limit the time frame of the search and to allow for more sophisticated search parameters. Please refer to our earlier discussion about using on-line databases available through the Gould Library or feel free to come and see me during office hours if you are having trouble with this aspect of the assignment. As part of your **Works Cited** page include a brief note on the steps in your search for information about other companies' investment practices and employment norms indicating the most successful search parameters and the specific sources (publications) you found most useful and why.

Q: One of the problems confronting developing states is their dependence on capital investment from firms in the developed states. This generates competition between developing states via to be the most attractive investment target. Often, this means lowering taxes on export oriented manufacturers, suppressing domestic wage demands, discouraging local consumption, ignoring issues of workplace safety and/or child labor standards and overlooking environmental degradation. Although most governments in the developing world would prefer to have higher standards on these dimensions, they seem locked in 'race to the bottom' with few other options. One potential solution to this conundrum may be the influence of NGOs. Evaluate the role of the NGO attempting to reform Nike's labor practices as presented in the case study. Did the governments of developing state play a role? Did IGOs? Identify the sources of Nike's reform as described in the case material. Using Lexis-Nexis assess whether a 'race to the top' of corporate responsibility has emerged since the events of this case transpired. Has Nike's global influence lead to the dissemination of new norms of labor practice among multi-national corporations world-wide? Offer your conclusion as to why some MNCs have followed Nike's lead while others have not.

Appendix B

Example of a methods course workshop paper with an information literacy component

Workshop Assignment: Locating Literature & Building and Annotated Bibliography

Part 1: Locate the J-Stor database on the library web site.
http://www.jstor.org/cgi-bin/jstor/gensearch
Conduct several searches on topics of interest to you by entering keywords in the full-text search. Make sure that (at least) the 'Political Science Journals' box is checked. If your topic involves certain geographical areas, or economic issues you may want to select more journal categories. Comb the resulting list of articles for **three or four** that seem particularly relevant. Read the abstracts, introductions and conclusions of these articles. When you've found a topic that seems especially interesting and accessible to you, save or print copies of the articles you've found.

Recalling our discussion of searching Gould Library Databases, you may need to adjust your search criteria to narrow or broaden your search depending on the number of articles found.

Part 2: Locate the Web of Science database on the library web site.
http://isiknowledge.com/wos
Pick your most interesting topic search and perform a 'full' search of the Social Science Citation Index using either the author's name or journal title for the articles you have selected from J-Stor. Record how many times each of the J-Stor articles you found has been cited since its publication. Find **at least one** of the citing articles. You may be able to find it on J-Stor (if it is older), in one of the other full-text databases, or you may need to venture into the library if it is from a more recent journal or is a book or part of an edited volume.

Write a **one page** summary of how your search went. What did you search for? What keywords did you use? How confident are you that you have identified the key articles in the discipline related to your research topic? Are there specific journals that come up regularly when you search for articles about your topic? On a subsequent page(s) include full bibliographic references to the J-Stor and SSCI articles you found. Below each article indicate how many times it has been cited (based on the SSCI) and append a one or two sentence summary of the content of the article.

Come prepared Friday to discuss what you've found and to submit your paper.

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